

What is claimed is:

1. A method of handing off a mobile station from a first wireless base station to a second wireless base station in a mobile communication system, comprising the
5 steps of:

(a) varying a handoff threshold which is set in said mobile station, according to quality of a wireless link between said mobile station and said first wireless base station which currently controls the mobile station;
10 and

(b) handing off said mobile station from said first wireless base station to said second wireless base station, based on said handoff threshold.

2. A method according to claim 1, wherein said
15 handoff threshold is varied on a real-time basis in step (a).

3. A method according to claim 2, further comprising the step of

(c) before performing the operation of step
20 (a), obtaining information on said quality of said wireless link between said mobile station and said first wireless base station.

4. A mobile communication system comprising:

at least one mobile station; and
25 at least two wireless base stations;
each of said at least two wireless base stations comprises,

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a handoff threshold varying unit which varies
a handoff threshold which is set in one of said at least
one mobile station, according to quality of a wireless
link between said one of the at least one mobile station
5 and said each of said at least two wireless base stations
which currently controls said one of the at least one
mobile station, and

a handoff processing unit which executes
processing for handing off said one of the at least one
10 mobile station from said each of said at least two
wireless base stations to another of said at least two
wireless base stations, based on said handoff threshold.

5. A mobile communication system according to claim
4, wherein said handoff threshold varying unit varies said
15 handoff threshold on a real-time basis.

6. A mobile communication system according to claim
5, wherein each of said at least two wireless base
stations further comprises a quality obtaining unit which
obtains, before performing the operation of said handoff
20 threshold varying unit, information on said quality of
said wireless link between said one of the at least one
mobile station and said each of said at least two wireless
base stations which currently controls said one of the at
least one mobile station.

25 7. A product for use with a wireless base station
apparatus, said product, when used with said wireless base
station apparatus, is able to output control information

which directs the wireless base station apparatus to
comprise:

a handoff threshold varying unit which varies
a handoff threshold which is set in a mobile station
5 currently controlled by said wireless base station
apparatus, according to quality of a wireless link between
said mobile station and said wireless base station
apparatus, and

a handoff processing unit which executes
10 processing for handing off said mobile station from said
wireless base station apparatus to another wireless base
station apparatus, based on said handoff threshold.

8. A product according to claim 7, wherein said
handoff threshold varying unit varies said handoff
15 threshold on a real-time basis.

9. A product according to claim 8, wherein said
product, when used with said wireless base station
apparatus, is able to output control information which
directs the wireless base station apparatus to further
20 comprise a quality obtaining unit which obtains, before
performing the operation of said handoff threshold varying
unit, information on said quality of said wireless link
between said mobile station and said wireless base station
apparatus which currently controls said mobile station.

25 10. A mobile communication system comprising:
at least one mobile station;
at least two wireless base stations; and

a mobile switching center;

said mobile switching center comprises,

a handoff threshold varying unit which varies
a handoff threshold which is set in one of said at least
5 one mobile station, according to quality of a wireless
link between said one of the at least one mobile station
and one of said at least two wireless base stations which
currently controls said one of the at least one mobile
station, and

10 a handoff processing unit which executes
processing for handing off said one of the at least one
mobile station from said one of said at least two wireless
base stations to another of said at least two wireless
base stations, based on said handoff threshold.

15 11. A mobile communication system according to
claim 10, wherein said handoff threshold varying unit
varies said handoff threshold on a real-time basis.

12. A mobile communication system according to
claim 11, wherein said mobile switching center further
20 comprises a quality obtaining unit which obtains, before
performing the operation of said handoff threshold varying
unit, information on said quality of said wireless link
between said one of the at least one mobile station and
said one of said at least two wireless base stations which
25 currently controls the mobile station.

13. A product for use with a mobile switching
center apparatus, said product, when used with said mobile

switching center apparatus, is able to output control information which directs the mobile switching center apparatus to comprise:

5 a handoff threshold varying unit which varies
a handoff threshold which is set in a mobile station currently controlled by a wireless base station, according to quality of a wireless link between said mobile station and said wireless base station, and

10 a handoff processing unit which executes
processing for handing off said mobile station from said wireless base station to another wireless base station, based on said handoff threshold.

15 14. A product according to claim 13, wherein said
handoff threshold varying unit varies said handoff
threshold on a real-time basis.

20 15. A product according to claim 14, wherein said
product, when used with said mobile switching center apparatus, is able to output control information which directs the mobile switching center apparatus to further
comprise a quality obtaining unit which obtains, before performing the operation of said handoff threshold varying unit, information on said quality of said wireless link between said mobile station and said wireless base station apparatus which currently controls the mobile station.

25 16. A mobile station comprising:

a handoff threshold varying unit which varies
a handoff threshold which is set in a mobile station,

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according to quality of a wireless link between the mobile station and a wireless base station which currently controls the mobile station, and

5 a handoff processing unit which executes processing for handing off the mobile station from said wireless base station to another wireless base station, based on said handoff threshold.

10 17. A mobile station according to claim 16, wherein said handoff threshold varying unit varies said handoff threshold on a real-time basis.

15 18. A mobile station according to claim 17, wherein said mobile station further comprises a quality obtaining unit which obtains, before performing the operation of said handoff threshold varying unit, information on said quality of said wireless link between said mobile station and said wireless base station which currently controls the mobile station.

20 19. A product for use with a mobile station apparatus, said product, when used with said mobile station apparatus, is able to output control information which directs the mobile station apparatus to comprise:

25 a handoff threshold varying unit which varies a handoff threshold which is set in said mobile station apparatus, according to quality of a wireless link between said mobile station apparatus and a wireless base station which currently controls said mobile station apparatus, and

a handoff processing unit which executes processing for handing off said mobile station apparatus from said wireless base station to another wireless base station, based on said handoff threshold.

5 20. A product according to claim 19, wherein said handoff threshold varying unit varies said handoff threshold on a real-time basis.

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10 21. A product according to claim 20, wherein said product, when used with said mobile station apparatus, is able to output control information which directs said mobile station apparatus to further comprise a quality obtaining unit which obtains, before performing the operation of said handoff threshold varying unit, information on said quality of said wireless link between
15 said mobile station apparatus and said wireless base station which currently controls the mobile station.

22. A wireless communication control apparatus comprising:

20 a handoff threshold varying unit which varies a handoff threshold which is set in a mobile station, according to quality of a wireless link between said mobile station and a wireless base station which currently controls said mobile station, and

25 a handoff processing unit which executes processing for handing off said mobile station from said wireless base station to another wireless base station, based on said handoff threshold.

23. A wireless communication control apparatus according to claim 22, wherein said handoff threshold varying unit varies said handoff threshold on a real-time basis.

5 24. A wireless communication control apparatus according to claim 23, further comprising a quality obtaining unit which obtains, before performing the operation of said handoff threshold varying unit, information on said quality of said wireless link between
10 said mobile station and said wireless base station which currently controls said mobile station.

25. A wireless communication control apparatus according to claim 22, further comprising a quality-versus-threshold table which indicates a relationship
15 between said handoff threshold and said quality.

26. A wireless communication control apparatus according to claim 22, wherein said handoff threshold varying unit lowers said handoff threshold when said quality of the wireless link drops below a predetermined
20 level.

27. A wireless communication control apparatus according to claim 22, further comprising a handoff limiting unit which stops said processing for handing off said mobile station to said another wireless base station
25 when a frequency of handoffs of said mobile station to said another wireless base station exceeds a predetermined frequency.

28. A wireless communication control apparatus according to claim 27, wherein said handoff limiting unit raises said handoff threshold when said handoff limiting unit stops said processing for handing off said mobile station.

29. A wireless communication control apparatus according to claim 28, wherein said handoff processing unit executes said processing for achieving the handoff, when said mobile station receives from said another wireless base station a reference signal having quality exceeding said handoff threshold raised by said handoff limiting unit.

30. A product for use with a wireless communication control apparatus, said product, when used with said wireless communication control apparatus, is able to output control information which directs the wireless communication control apparatus to comprise:

a handoff threshold varying unit which varies a handoff threshold which is set in a mobile station, according to quality of a wireless link between said mobile station and a wireless base station which currently controls said mobile station, and

a handoff processing unit which executes processing for handing off said mobile station from said wireless base station to another wireless base station, based on said handoff threshold.

31. A product according to claim 30, wherein said

handoff threshold varying unit varies said handoff threshold on a real-time basis.

32. A product according to claim 31, wherein said product, when used with said wireless communication control apparatus, is able to output control information which directs said wireless communication control apparatus to further comprise a quality obtaining unit which obtains, before performing the operation of said handoff threshold varying unit, information on said quality of said wireless link between said mobile station and said wireless base station which currently controls said mobile station.

33. A product according to claim 30, wherein said product, when used with said wireless communication control apparatus, is able to output control information which directs said wireless communication control apparatus to further comprise a quality-versus-threshold table which indicates a relationship between said handoff threshold and said quality.

34. A product according to claim 30, wherein said handoff threshold varying unit lowers said handoff threshold when said quality of the wireless link drops below a predetermined level.

35. A product according to claim 30, wherein said product, when used with said wireless communication control apparatus, is able to output control information which directs said wireless communication control

apparatus to further comprise a handoff limiting unit which stops said processing for handing off said mobile station to said another wireless base station when a frequency of handoffs of said mobile station to said another wireless base station exceeds a predetermined frequency.

36. A product according to claim 35, wherein said handoff limiting unit raises said handoff threshold when said handoff limiting unit stops said processing for handing off said mobile station.

37. A product according to claim 36, wherein said handoff processing unit executes said processing for achieving said handoff, when said mobile station receives from said another wireless base station a reference signal having quality exceeding said handoff threshold raised by said handoff limiting unit.